



## BACKGROUND

Highly pathogenic avian influenza (HPAI), commonly known as bird flu, is a foreign animal disease caused by influenza A viruses. These viruses are found naturally in wild bird populations. Wild birds act as reservoirs, circulating these viruses between each other, sometimes with no clinical signs. However, HPAI can be transmitted to domestic chickens and turkeys, which may result in an outbreak. The USDA is the lead federal agency in responding to foreign animal diseases, such as HPAI.

## PURPOSE

The intent of this guidance is to provide recommended waste acceptance practices for landfill disposal of HPAI infected carcasses. In an outbreak, all carcasses must be disposed of in a timely, biosecure, aesthetically acceptable, and environmentally responsible manner. Permitted landfills are an important option for disposal during an outbreak. These landfills must have necessary environmental controls to manage carcasses. In addition, strict biosecurity procedures must be followed during transportation and disposal.

## PROTECTION OF LANDFILL OPERATORS

While the Centers for Disease Control and Prevention (CDC) has determined that risk for human infection from the 2014–2015 HPAI outbreak strains is low (see the *CDC Interim Guidance for Landfill Workers in the United States Disposing of Poultry Carcasses During Outbreaks of HPAI*), the CDC does recommend landfill operators take appropriate precautions for those involved in disposal operations. If landfills are used to dispose of carcasses during an HPAI outbreak, landfill operators should follow CDC's guidelines, which are available [here](http://www.aphis.usda.gov/fadprep) or by visiting [www.aphis.usda.gov/fadprep](http://www.aphis.usda.gov/fadprep).

## GENERAL LANDFILLING PROCESS

All HPAI landfill operations will be supervised by personnel from USDA or State Departments of Agriculture. Contractors can be hired through the USDA to provide roll offs and other equipment at farms, CDL truck drivers (to transport roll offs to and from landfills), and personnel to perform cleaning and disinfection (C&D) of all conveyances. Contracted workers may also instruct truck drivers onsite, under the direction of landfill management.

The landfill will determine the amount of carcasses and waste materials they will accept from an infected farm. Waste materials may include manure, eggs, litter, left over feed, egg flats, pallets, used PPE, and C&D supplies. The landfill will also control the frequency of deliveries. Communication will be established between landfill management, State or federal site managers and/or case managers at an infected premises, and the USDA APHIS contracting office. Deliveries to and from the landfill are coordinated in advance between the landfill and the State or federal site manager on an infected premises.

## Landfill Reimbursement

USDA APHIS may pay or reimburse landfills for operations that occur in addition to the normal course of business. This *could* include the following expenses, which will be negotiated at the time services are required:

- ◆ building temporary roads and entrances/exits dedicated to HPAI operations,
- ◆ purchasing additional liability insurance policies,
- ◆ hazing scavenger birds, and
- ◆ managing predators, pests, and odors related to HPAI waste disposal.

These items have been covered in the past, and will be negotiated with the landfill in advance, when farms have tested positive and emergency funding is made available. Any interested landfills should register as a federal contractor by:

1. Obtaining a DUNS number by visiting <http://www.dnb.com/get-a-duns-number.html>.
2. Registering at [www.sam.gov](http://www.sam.gov) (select “register/update entity” in the middle of the screen).

*All entities must register in SAM to be paid.* It takes an hour or two to register and then several days for the system to update.

Producers may choose to contract directly with landfills. Producers should check with their APHIS representative regarding reimbursement at the time of an outbreak prior to any expenditures.

## Guidelines for State Regulators

State Departments of Environmental Protection or Natural Resources typically determine the guidelines for containment liners, leachate management, grey water management, timelines for covering contaminated materials, the depth of covering, modifications to working faces, and permits for landfill burial. The USDA can provide suggestions and brief the landfill regulatory agencies, but ultimately it is the landfill’s responsibility to follow their State’s rules and regulations. An example of what preparations could be made in advance by State regulatory agencies can be found below.

1. Technical requirements and procedures for landfilling of HPAI wastes are established by the State-level regulatory agency responsible for permitting of landfills (State environmental agency). These requirements are designed to be protective of human health and the environment, to not jeopardize the structural or operational integrity of the landfill, and to allow the facility to operate in compliance with their land disposal facility permit. Federal/State agencies charged with protecting animal health, biosecurity, and disease control are responsible for establishing any additional technical requirements and procedures pertaining to their authorities.
2. The State environmental agency may survey all potentially qualified land disposal facilities to determine their interest in accepting HPAI wastes. Information on the technical requirements and procedures for land disposal of HPAI wastes is included in the communication so landfills can perform an initial evaluation of their facility’s capability in regards acceptance of HPAI wastes.
3. The landfill notifies the State environmental agency of its willingness to accept HPAI wastes.
4. The State environmental agency meets with landfill representatives to evaluate the suitability of their facility to accept HPAI wastes. The evaluation includes the following topics:

- a. Area within the landfill for disposal of HPAI wastes; verification that the area is underlain by a leachate collection system.
  - b. Number of acres available for disposal of HPAI wastes.
  - c. Thickness of already-disposed waste layer between surface of landfill and leachate collection system.
  - d. Leachate management activities and method for disposal of excess leachate.
  - e. Logistics of HPAI waste acceptance and coordination of HPAI waste acceptance with acceptance of routine waste streams.
  - f. Gas collection system – location and any necessary operational changes during HPAI waste disposal activities to reduce the risk of fires.
  - g. Mobile incinerator – is landfill facility willing and able to host a mobile incinerator at their facility, and if so, determine if a fuel source is available.
  - h. Public relations and community outreach – discuss how the public and local elected officials will be informed of and educated about potential HPAI waste landfilling activities at the facility.
5. The State environmental agency informs federal/State agencies charged with protecting animal health, biosecurity, and disease control of the landfill facilities deemed technically able and willing to accept HPAI wastes for disposal.

## TYPICAL EMERGENCY LANDFILLING PROCEDURES, ROLES, AND RESPONSIBILITIES

1. The landfill agrees to receive infected birds.
2. State provides permits and permit conditions to landfill.
3. USDA contractor visits the landfill to evaluate access, and works with the landfill to:
  - a. plan traffic routing for trucks carrying HPAI waste,
  - b. stabilize the roadway if needed,
  - c. select the location for vehicle C&D, and
  - d. select C&D wash water disposal option(s).
4. The USDA contractor provides recommendations for road stabilization material in addition to possible government equipment needed.
5. USDA APHIS awards contract to the landfill.
6. The landfill consults with the USDA APHIS on cost—an agreement is then made to proceed with any required modifications to handle the HPAI waste.
7. The USDA contractor sets up and operates vehicle C&D station(s).
8. The USDA contractor provides, loads, and disinfects outbound trucks at origin (e.g., sealed roll-offs lined with plastic to allow bags to slip out; biozip (or similar) bag placed in roll-off over liner; 1 foot wood chips placed in bottom of bag; birds loaded to within 1 foot of top of roll-off; biozip (or similar) bag sealed; roll-off disinfected and tarped).
9. USDA provides a permit for the truck to leave the infected premises.
10. The USDA contractor or subcontractor drives the truck to the landfill and prepares to dump where directed by landfill staff or designee.
11. The USDA contractor uses heavy equipment to open roll-off gate.
12. The truck driver tips load where directed.
13. The USDA contractor covers the waste material.
14. The landfill manages leachate in accordance with permit conditions.
15. The USDA contractor or subcontractor drives the truck to the C&D station for washing prior to leaving landfill.
16. The USDA contractor or subcontractor disposes of C&D wash water in accordance with the landfill and State requirements (likely at the municipal waste water treatment plant).
17. USDA APHIS pays the contractor and landfill when their invoices are approved.

### *Aerial View of Landfill Staging*



### FOR FURTHER INFORMATION

Please see the following websites for further information concerning HPAI:

- ◆ [FAD PReP Material and References](#)
- ◆ [USDA APHIS Avian Influenza](#).